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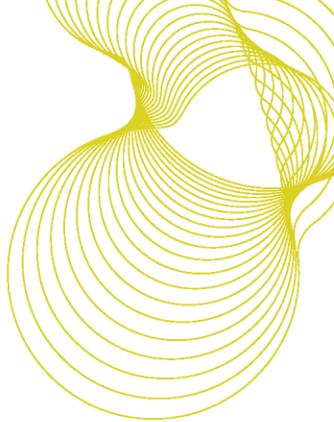
**Proposed Scheme
Report**

Truly Reclaimed Wood

Prepared for: Noel Thompson
Project monitoring officer
Innovate UK

14th April 2016

Client report number 132075/3



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Approved on behalf of BRE

Name Gilli Hobbs

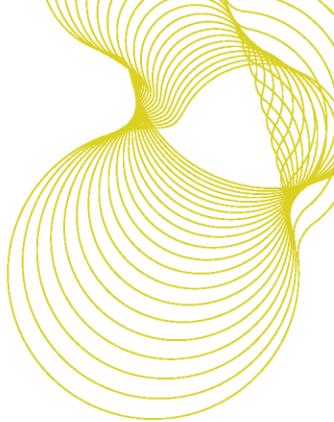
Position Strategy Director

Date 14th April 2016

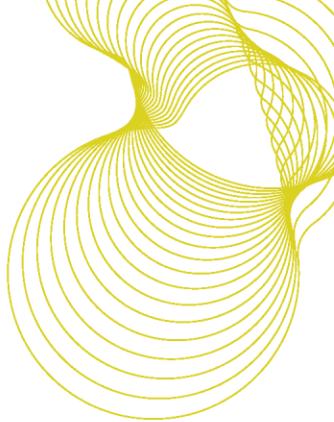
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A handwritten signature in black ink that appears to read "Gilli Hobbs". The signature is written in a cursive, flowing style.

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Executive Summary

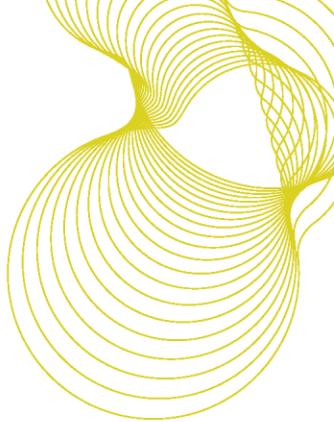
This feasibility study has been funded through Innovate UK's Circular Economy Business Call. Innovate UK has invested around £800k in feasibility studies into the business case for retaining value in durable goods through reuse, remanufacture or leasing/maintenance. The objective of the call was to develop projects that explore commercial models for a circular economy of goods in which resources are kept in productive use – ideally at the same value/use.

The main aim of this feasibility study is to encourage the greater use of reclaimed wood, through ensuring a steady demand and supply, by developing a business model that will provide a level of assurance to the end user.

This report provides a summary of the tasks undertaken to date and our findings, including organisations and people consulted, points raised and how they have/can be addressed, summary of the pilots and lessons learnt, estimates of the impact of the Truly Reclaimed Wood mark (TRWM) on the amount of reclaimed wood reused, and the business case for further development and commercial introduction of the TRWM. This forms the basis of any further applications to Innovate UK, depending on the extent of further R&D that is still required prior to commercialisation.

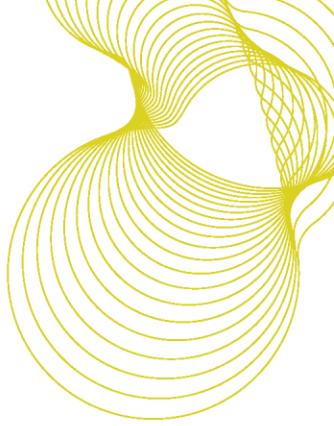
The report addresses two key requirements from Innovate UK in completing this feasibility study – a business plan for commercialisation, and a proposal for stage 2 funding to enable the TRWM to become established.

Finally, this report includes several infographics developed for this feasibility study, and for continued use in terms of marketing the TRWM, should it continue to be developed into a commercially viable scheme.



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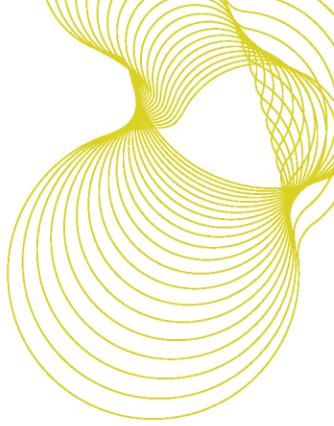
Introduction

The main aim of this feasibility study is to encourage the greater use of reclaimed wood, through ensuring a steady demand and supply, by developing a business model which will provide a level of assurance to the end user. Knowledge from developing the successful Grown in Britain scheme will be utilised to investigate the potential to set up a 'Truly Reclaimed Wood' scheme (waste producers) and the downstream end users (clients and specifiers) to establish the requirement for the scheme with the aim to increase the amount of wood reclaimed and kept at the same value/use, a key ingredient of the circular economy. It is estimated that the size of the reclaimed wood sector has shrunk by two-thirds over 10 years, with wood suitable for reclamation being downcycled for recycling and energy generation.

The project consortia involves Salvo, who represent the reclamation sector and work closely with suppliers and end users and BRE who have much expertise and knowledge in developing assurance schemes including Grown In Britain and excellent networks within the construction sector.

The feasibility study has been funded through Innovate UK's Circular Economy Bursary scheme. Innovate UK has invested around £800k in feasibility studies into the business case for retaining value in durable goods through reuse, remanufacture or leasing/maintenance. The objective of the call was to develop projects that explore commercial models for a circular economy of goods in which resources are kept in productive use – ideally at the same value/use.

This report summarises progress made on the feasibility project to end March 2016 and proposed activities beyond the feasibility study project.



Description of the project

The project has been set up in three key stages:

Work Package 1: Business modelling and process mapping

This has two key objectives

To establish the current business models for reclaimed wood and related issues/barriers

Develop draft proposal(s) for scheme to present to stakeholders with input from Grown In Britain

Description of work

Map the current business model(s) for reclaimed wood, i.e. looking at its source, how it is distributed, specified and subsequently used in various end markets, along with the issues/barriers at each stage.

Meet the 'Grown in Britain' (GIB) team to transfer knowledge and engagement for a product mark.

Review other schemes such as FSC, responsible sourcing schemes (e.g. BES6001) and gain input from BRE experts on setting up verification/inspection schemes.

Set up a small panel of reclaimed wood reuse enthusiasts drawn from like-minded organisations such as Ethical Consumer and Friends of the Earth, celebrity reuse-supporters and everyday consumers with a special interest in reuse of salvage in fashion shops, hotels, restaurants and pubs.

A new task was included half way through the project to review LCA methodologies, allocations and boundaries with respect to biogenic materials (such as timber) and provide guidance to support stakeholder discussions and further development of a Truly Reclaimed Wood mark (TRWM) scheme.

Prepare short document on draft proposal(s) for what the product mark should include, how it could be used and the associated processes, the benefits will be developed. This will be used to inform stakeholder dialogue for Work package 2 (detailed below).

Work Package 2: Stakeholder engagement

The key objective of this work package is to further understand the potential to develop a scheme through obtaining user feedback and willingness to participate from the different parts of the supply chain.

Description of work

The small panel of wood reuse enthusiasts (set up in Work Package 1) will be contacted to obtain their feedback on a proposed scheme and their willingness to be involved, promote it and pilot it.

Client facing engagement – much of the use of reclaimed wood is client-led, so the proposed product mark will be discussed with clients and specifiers in the retail and hospitality sectors to see how and why the reuse of reclaimed wood converts to customer loyalty and greater sales and the potential importance of a scheme. This information will be used to refine the proposal(s).



Suppliers' - Salvo will hold discussions with its core members of 25 major stockholding dealers of reclaimed wood, some of whom are also demolition contractors, some are manufacturers of products made from reclaimed wood, and some are both. Salvo will also circulate information about the project and a questionnaire to its trade subscribers, consisting of 527 UK salvage yards.

Practicalities will also be discussed with the National demolition members, to ensure it is workable as well as those that will potentially working with the reclaimed wood – largely fit-out contractors.

Trade bodies and professional institutions will also be contacted for feedback, this includes RIBA (design/specifier community), Build UK (construction contractors), Environment Agency, FSC and other relevant bodies.

A new task was added half way through the project to gain feedback from domestic customers in high end refurbishment who have been identified as a key potential client group. To gain feedback from this group, Salvo (with support from BRE) will exhibit at the Listed Property show 20th/21st February.

A stakeholder engagement report will be produced summarising the feedback and how this can be used to develop/refine the scheme further.

Work package 3: Feasibility evaluation and business plan

The main objective of this work package is to finalise the proposed scheme and develop associated business plan.

Description of work

A small scale pilot of the draft product mark, with initial labelling/marketing, will be undertaken where feasible to test our approach. These are expected to be based upon views from the panel of wood reuse enthusiasts and the Grown in Britain network

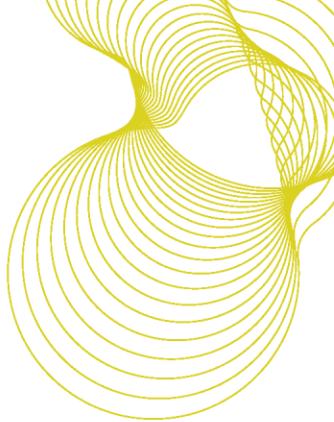
Revised task - A dissemination activity will be developed to publicise the initial approaches of a proposed scheme and gain wider feedback from the demolition and construction sector on any additional requirements/research needed to facilitate wide scale uptake.

Revised task - The proposed product mark along with the contents of the scheme, will be compiled (in draft form) along with the associated benefits and risks and the business plan for implementation with feedback from the previous work packages, the dissemination event and the pilot.

The report which will contain a summary of the tasks undertaken, a list of organisations and people consulted, points raised and how they have/can be addressed, a summary of the lessons learnt, an assessment of the feasibility and the related business case, including a costed project plan including a timetable for the commercial introduction of the TRWM.

The report will also contain some professionally produced infographics (via subcontract) for reclaimed woods statistics for general use, TRWM designs and promotional material, and why use reclaimed wood info graphic for specifiers.

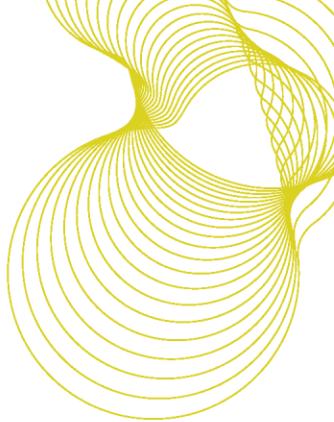
We will also consider at an appropriate point in Work package 3 process, development of a further application to Innovate UK to enable a larger pilot to demonstrate how the model could become part of normal business.



Findings

The findings are split into the following areas:

- Current business model for reclaimed wood
- FSC and other relevant certification and verification schemes
- Grown in Britain
- Life cycle analysis approaches for reclaimed wood
- Stakeholder feedback and piloting
- Awareness raising and dissemination



1. Current Business model for reclaimed wood

Types of models

Several business models exist but for simplicity four will be outlined here - the specialist reclaimed wood dealer, the runner, the small salvage yard, and the demolition contractor with his own salvage yard.

a. Specialist reclaimed wood dealer

Upstream supplies: Supplies typically start with a call from a demolition contractor, dismantling a large building, who the dealer may deal with directly, or more typically via a dealer chain, the first link of which may be a runner local to the demolition who sells to a local or regional dealer, who in turn sells to other dealers. The specialist reclaimed wood dealer will buy all, or a large proportion, of suitable wood offered, and will prefer to buy direct from source, and even remove the wood using his own labour to ensure quality control. He will pay top money for the best wood.

Stockholding: The wood is batched up and moved to the dealers' store where it may be cleaned, processed in a kiln or dehumidifier, sawn, stripped, polished and repacked.

Downstream demand: The specialist reclaimed wood dealer normally has regular commercial clients for large amounts of wood at high prices. Typically these may be developers or subcontractors to a shop or restaurant chain. Quite often the dealer has in-house fitters or a team of reliable subcontracting fitters.

Applicability of a TRWM: High, since the specialist reclaimed wood dealer essentially wants to have confidence that the quality of the supplies are good since they are supplying to commercial clients. Ideally, those clients would eventually specify 'Truly Reclaimed' specialist dealers who are providing products accordingly. It will be important to collect feedback from both the dealers and their clients to more fully understand how such a scheme could work in practice within this business model.

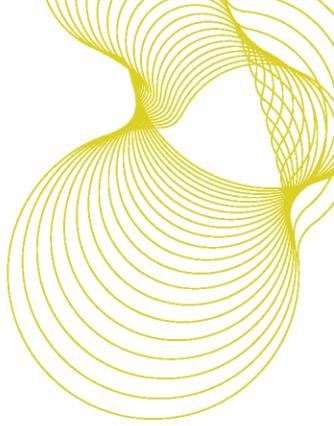
b. The runner

Upstream supplies: Supplies typically start with a call to a demolition contractor or builder, dismantling any size of building which has a small quantity of fairly good quality reclaimed wood, or he may see some while driving past a skip in his van. Usually the wood has been removed, not very carefully, from the building by the demolition contractor or builder, and left out-side. The runner will procure suitable wood offered at a low price.

Stockholding: The wood is sorted and damaged pieces removed. It may then be left outside batched up and moved to the dealers store where it may be cleaned, processed in a kiln or dehumidifier, sawn, stripped, polished and repacked.

Downstream demand: The runner normally has various routes for disposal at low prices including small salvage yards, furniture-makers who reuse reclaimed wood, direct sales through an online marketplace such as SalvoWEB, trade fairs, and local builders.

Applicability of a TRWM: Medium, the opportunistic nature of this business model could reduce the potential to comply with conditions set out in a Truly Reclaimed wood scheme, once developed. It will be necessary to understand how conditions that are likely to be set that could rule out this and other business models from participating in the Truly Reclaimed wood supply chain. Where possible, such constraints should be limited, providing the integrity of the scheme will not be undermined.



c. The small salvage yard

Upstream supplies: Supplies typically start with a call from a local private customer or builder removing a quantity of fairly good quality reclaimed wood. Usually the wood has been removed from a builder, quite often damaging the wood in the process, but it can usually be obtained before being left outside to get wet. The small salvage yard will buy suitable wood offered at an average price.

Stockholding: The wood is batched up and moved to the dealers store where it may be cleaned and repacked. Damaged wood is discarded.

Downstream demand: The small salvage yards may upcycle it into furniture, or sell it to DIYers, builders, furniture makers who reuse reclaimed wood, direct sales through an online marketplace such as SalvoWEB and local builders. They will achieve an average to high price.

Applicability of a TRWM: Medium, the small scale of the operation may mitigate against the financial viability of operating a scheme to include micro businesses. Ideally, cost should not be a barrier to participation, but having robust systems in place, such as third party auditing, is not cheap and would have to be covered by the supplier. In turn, such a supplier would need to be confident these costs would be recouped through higher margins on certified/verified stock. Depending on their client base, this may or may not be possible.

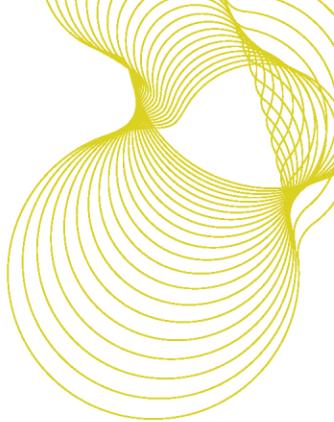
d. Demolition contractor with in-house salvage yard

Upstream supplies: Supplies typically start with the demolition contractor's own of a large quantity of fairly good quality reclaimed wood, carefully removed by his own workforce, and usually kept dry. The demolition contractor will factor in the value of the wood, usually at a low or very low value.

Stockholding: The wood is often batched up and moved to their in-house yard where it may be cleaned and repacked.

Downstream demand: The demolition contractor will then follow the small salvage yard approach and may up-cycle it into furniture, or sell it to DIYers, builders, furniture makers who reuse reclaimed wood, direct sales through an online marketplace such as SalvoWEB and local builders. They will achieve an average to high price.

Applicability of a TRWM: Medium, though the demolition contractor could find it easier to fulfil any chain of custody/audit trail requirements of a Truly Reclaimed wood scheme. Similar to the small salvage yard business model, it would be highly dependent on the volume of material that could command a higher price due to client requirements. This needs to be better understood through stakeholder discussions.



2. Reclaimed timber in current certification schemes

CPET (Central Point of Expertise on Timber) have confirmed that four certification schemes demonstrate timber and wood projects come from legal and sustainable sources. These are:

- FSC – Forest Stewardship Council
- CSA – Canadian Standards Association
- PEFC – Programme for Endorsement of Forest Certification Schemes
- SFI – North American Sustainable Forest Initiative

UK Government policy is to treat these four schemes as equivalent when purchasing timber and wood.

Other schemes include the Malaysian Timber Certification Scheme and, in Britain, the Grown in Britain scheme.

FSC

FSC-STD-40-007 FSC Standard for Use of Reclaimed Material in FSC Product Groups and FSC certified Projects

Post-consumer reclaimed material and pre-consumer reclaimed material can be used in: FSC Mix, FSC Recycled

Definitions

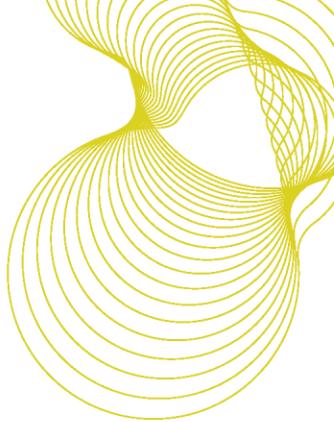
FSC Recycled: FSC-certified reclaimed material based on exclusive input from reclaimed sources, and supplied with a percentage claim or credit claim. FSC Recycled material or products are eligible to be used in FSC Mix or FSC Recycled product groups.

Chain of custody: For reclaimed/recycled materials or products containing them, the path taken by raw materials, processed materials, finished products, and co-products from the reclamation site to the consumer, including each stage of processing, transformation, manufacturing, storage and transport where progress to the next stage of the supply chain involves a change of ownership (independent custodianship) of the materials or the products.

Minor components: Forest based components of an FSC 100% or FSC Mix assembled product constituting less than 5% of the weight or volume of the virgin and reclaimed materials in the product. Minor components can be exempted from the requirements for Chain of Custody control as specified by this standard.

Post-consumer reclaimed material: Material that is reclaimed from a consumer or commercial product that has been used for its intended purpose by individuals, households or by commercial, industrial and institutional facilities in their role as end-users of the product.

Pre-consumer reclaimed material: Material that is reclaimed from a process of secondary manufacture or further downstream industry, in which the material has not been intentionally produced, is unfit for end use and not capable of being re-used on-site in the same manufacturing process that generated it.



The production of FSC Recycled products requires the exclusive use of reclaimed material inputs (FSC Recycled, post-consumer and pre-consumer reclaimed material). Only post-consumer input counts towards the input percentage or towards the FSC credit.

Sourcing Reclaimed Materials FSC-STD-40-007_V2-0_EN

Generating raw material on site: Organisations must classify mixtures of different virgin or reclaimed material categories, where the proportions of the different inputs cannot be identified, by the material category and, if applicable, percentage or credit claim with the lowest FSC or post-consumer input per input volume

NOTE: Material mixtures of FSC-certified, controlled and/or reclaimed material, where the proportions of the different inputs cannot be identified, shall be classified as 'control'

Suppliers validation and monitoring: The organization shall conduct a validation process for its suppliers of reclaimed materials to determine whether the materials supplied are eligible to enter into FSC product groups,

PEFC

PEFC International Standard, PEFC ST 2002:2013, Requirements for PEFC scheme users, Chain of Custody of Forest Based Products – Requirements¹

Definition of Recycled material:

Forest based material that is

(a) diverted from the waste stream during a manufacturing process. Excluded is reutilisation of materials such as rework, reground or scrap generated in a process and capable of being reclaimed within the same process that generated it. Excluded are byproducts such as sawmilling by-products (sawdust, chips, bark, etc.) or forestry residues (bark, chips from branches, etc.)

(b) generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.

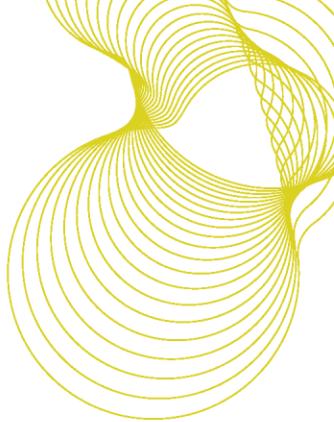
Note 1: The term "capable of being reclaimed within the same process" means that material generated in one process is continuously returned to the same process at the same site. An example is residue generated by a press line in a panel board production which continuously re-enters the same press line. This is not considered as recycled material.

Note 2: Material classified under the grades of recovered paper according to EN 643 is recognised as meeting the definition of the recycled material.

Note 3: The definition is based on definitions of ISO 14021:1999.

PEFC Due Diligence System requirements – recycled material is exempt.

¹ <http://pefc.org/standards/technical-documentation/pefc-international-standards-2010/1193-chain-of-custody-of-forest-based-products-requirements-pefc-st-2002-2013>



Canadian Standards Association

No reference to reclaimed timber found

North American Sustainable Forest Initiative

The SFI 2015-2019 Chain-of-Custody Standard tracks the percentage of fibre from certified forests, certified sourcing and recycled content through production and manufacturing to the end product.

SFI 2015-2019 Standards and Rules definitions:

Recycled content: Pre-consumer recycled content and post-consumer recycled content.

Post-consumer recycled content: Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose

Pre-consumer recycled content: Material diverted from the waste stream during a manufacturing process. It does not include materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process.

Malaysian Timber Certification Scheme

There are two components: Forest Management Certification and Chain of Custody Certification. The standard used for CoC certification is the PEFC ST 2002:2013, Chain of Custody of Forest Based Products – Requirements.

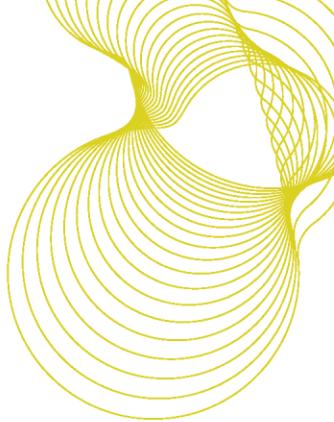
Grown in Britain

Grown in Britain licence is awarded for:

- Grown in Britain Forest
- Grown in Britain Forest Product
- Grown in Britain Supplier
- Grown in Britain Legal Only

Definitions:

Post-consumer timber: an input that has had a previous product life, which is reused, reclaimed or recycled into a new finished product.

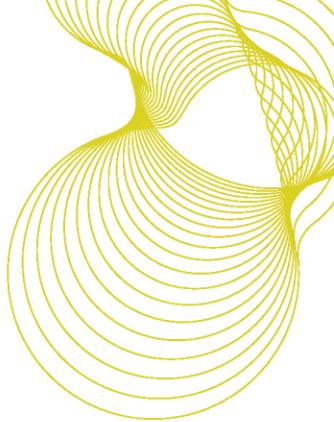


Pre consumer timber is timber that may or may not have been part of a manufacturing process and may or may not have been produced as a primary product or co product of a lesser value than the primary product. This timber is considered virgin timber and will be required to provide evidence as such.

Recycled timber: post-consumer timber, for example timber which has been previously used either in buildings, temporary works or other uses and are re-used in such a way that they require reprocessing. This includes reclaimed or reused timber. It does not include Pre-consumer timber (see above).

There are detailed General Requirements for chain of custody licence for recycled material including information on procedures, record keeping, storage, material accounting etc.

There is also the Grown in Britain Woodfuel licence.

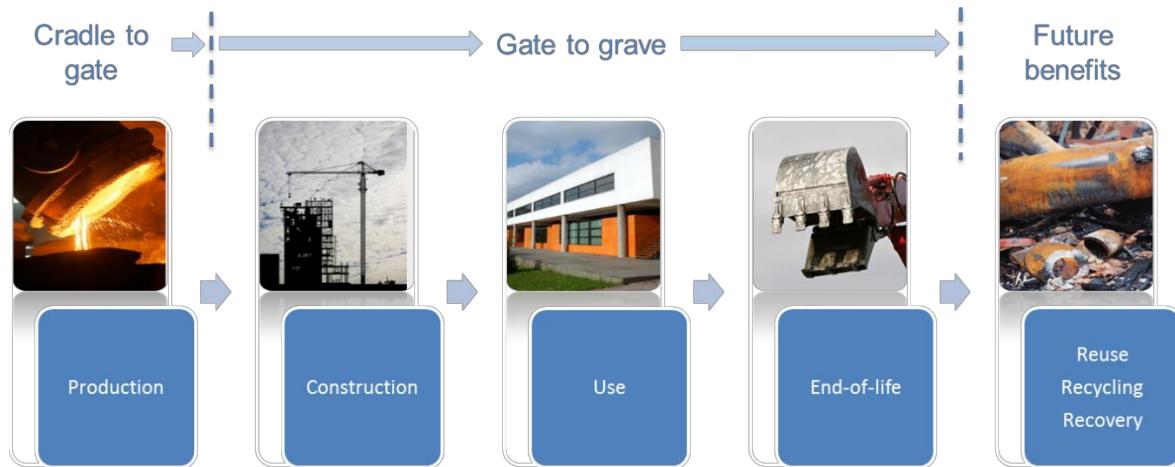


3. Life cycle assessment approaches for reclaimed wood

There was an assumption made prior to the start of the feasibility study that it would be possible to provide compelling information relating to the environmental benefits of truly reclaimed wood compared to new wood that is made to look reclaimed. In line with the work on-going in Europe to standardise the sustainability assessment of construction, this should be quantifiable through life cycle assessment.

The diagram below summarises the boundaries of life cycle assessment.

Figure 1: Illustration of Life Cycle Assessment boundaries



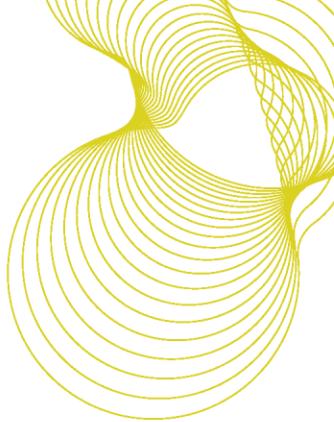
As can be seen from Figure 1, there are a number of options that could be chosen to conduct a life cycle assessment, including:

- Cradle to gate – this considers the impacts of production and distribution to the point of use
- Gate to grave – this considers the impacts of installation, use and the disposal of materials when removed from the built environment
- Cradle to grave – this is the combined impacts from production all the way through to end of life
- Future benefits – these are the follow on benefits of reuse and recycling, for example, the displacement of new feedstock.

For reclaimed wood, there was a fundamental issue that needed further work to see if it was possible to demonstrate benefits in comparison to new wood. This is called carbon sequestration, i.e. the absorption of carbon dioxide.

Life cycle assessment considering Carbon

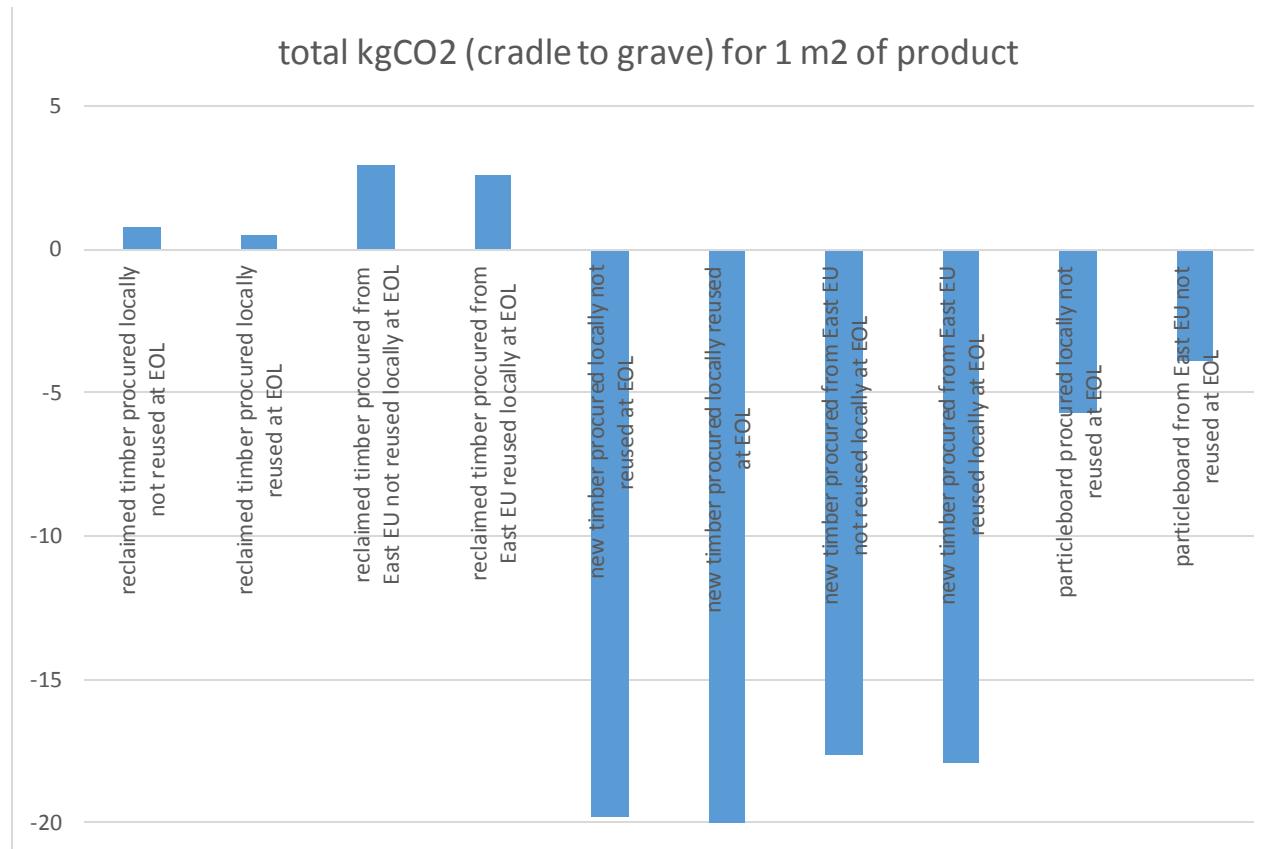
Since timber essentially absorbs carbon dioxide from the atmosphere, there is a net carbon benefit associated with new timber. This is not transferred to reclaimed timber since the carbon sequestration has already been 'claimed' in the first inclusion means that from an LCA perspective, the cradle to gate impact of new timber is significantly better than reclaimed timber. Accordingly, it would not be possible to demonstrate environmental benefits of using reclaimed timber where the boundary is restricted to the point of use, i.e. cradle to gate.



Further work was then carried out to consider the 'gate to grave' impacts. Since new wood would always date to the scope of the assessment was expanded to include a processed wood product, such as chipboard. These products do not have the same end of life options, in that they cannot be readily reused or recycled.

Chart 1 summarises the cradle to grave assessment of the three product types, and chart 2 extracts the gate to grave assessment.

Chart 1: Cradle to grave assessment for new wood, reclaimed wood and particleboard



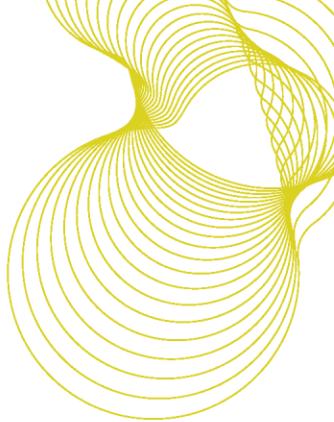
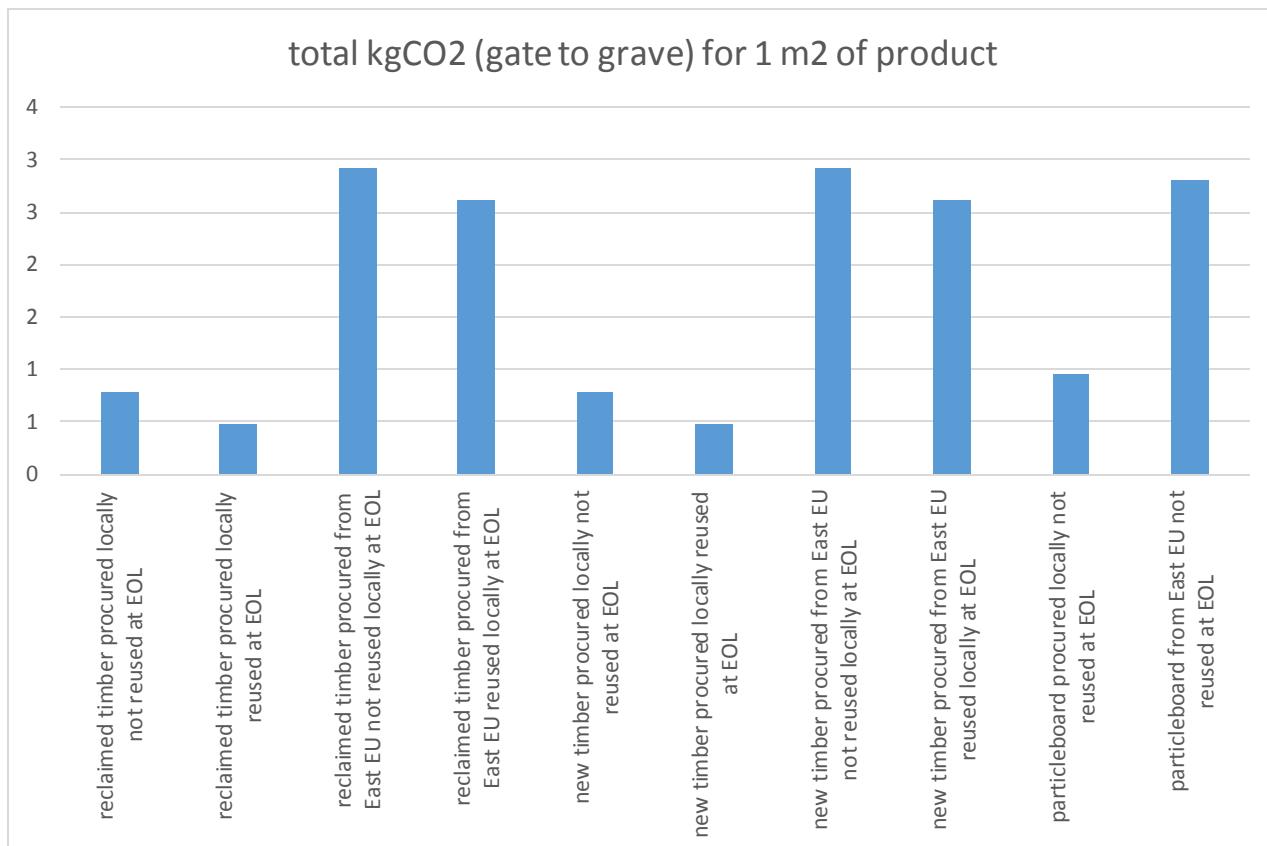


Chart 2: Gate to grave assessment ranking for new wood, reclaimed wood and particleboard



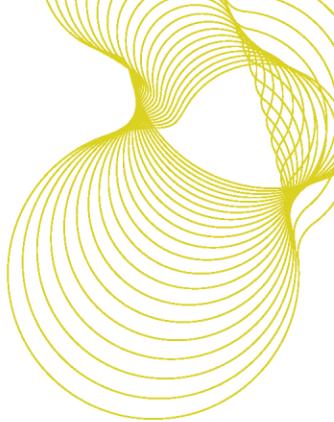
The assessment also compared local, i.e. UK, products versus products from a typical source of Eastern Europe.

In essence, the results show that reclaimed wood will not compete favourably with new wood, or wood based products (owing to their incorporation of virgin wood) for cradle to gate assessments considering carbon impacts. However, it is possible to demonstrate a small benefit when comparing reclaimed/new wood with wood based products for the gate to grave assessment considering carbon impacts.

BRE environmental profiles

BRE has developed an expanded assessment methodology looking at wider impacts, including:

Global warming potential
Depletion potential of the stratospheric ozone layer
Acidification potential of soil and water
Eutrophication potential
Formation potential of tropospheric ozone
Abiotic depletion potential for non-fossil resources



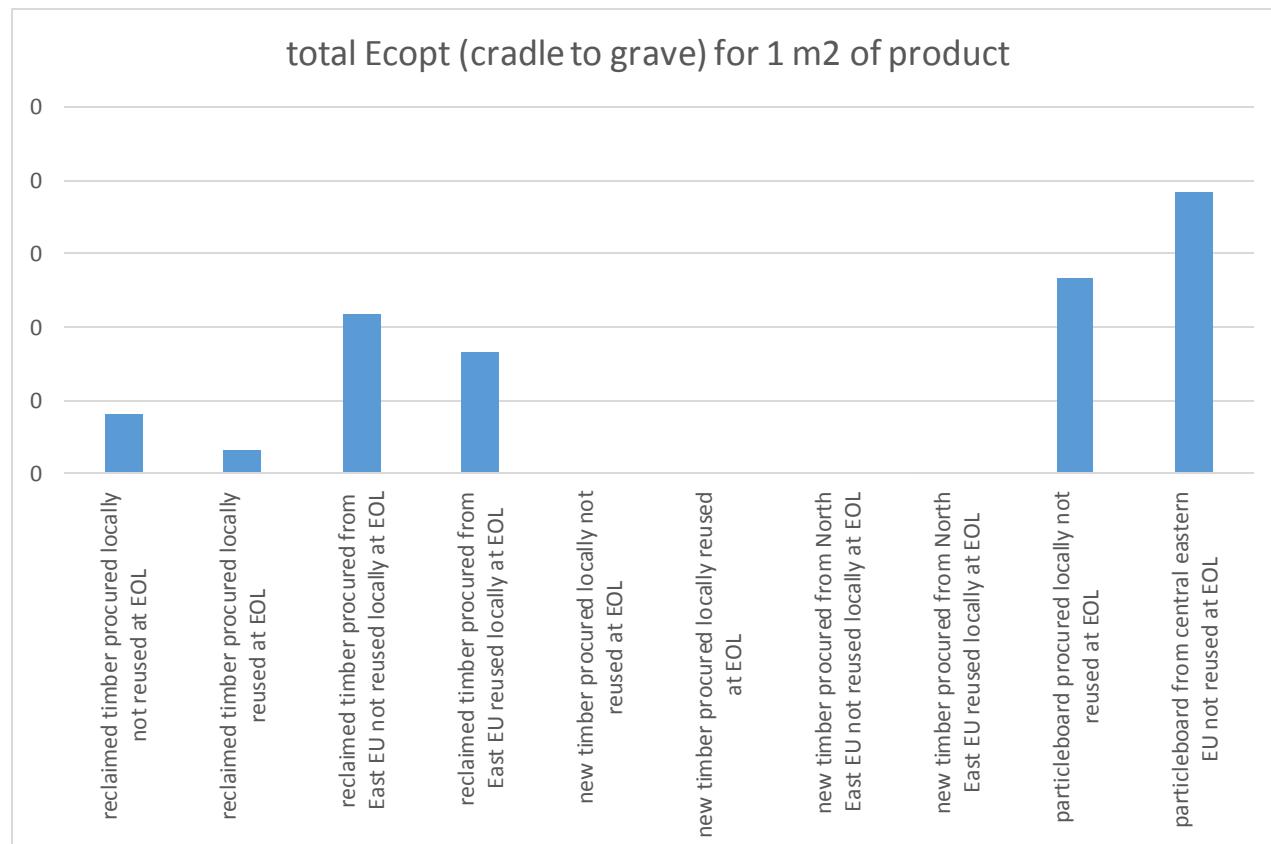
Abiotic depletion potential for fossil fuels
Net use of fresh water
Hazardous waste
Non-hazardous waste
Radioactive waste (high level waste)

This methodology combines these categories to form an Ecopoint. With ecopoints being related in themselves to the impact of a typical EU citizen.

As with the previous LCA, a comparison between new wood, reclaimed wood and wood-based products was made to see if inclusion of more impact categories would demonstrate any benefits relating to truly reclaimed wood.

Chart 3 summarises the cradle to grave assessment of the three product types, and Chart 4 extracts the gate to grave assessment for ecopoints.

Chart 3: Cradle to grave assessment for new wood, reclaimed wood and particleboard



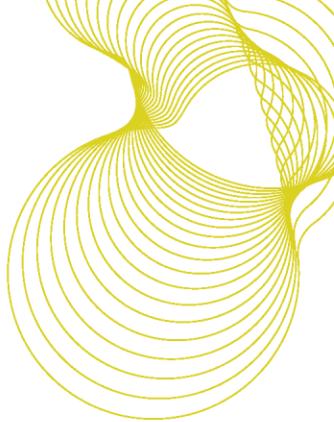
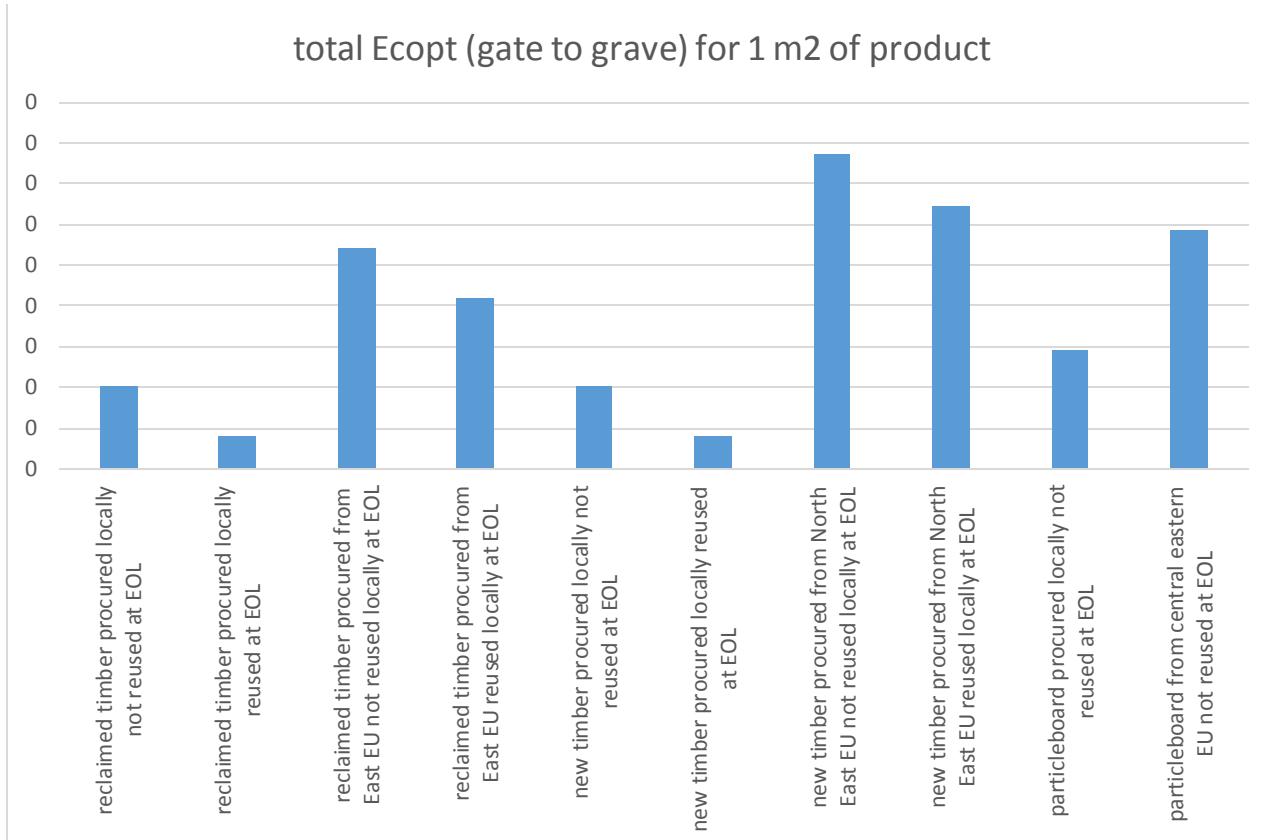
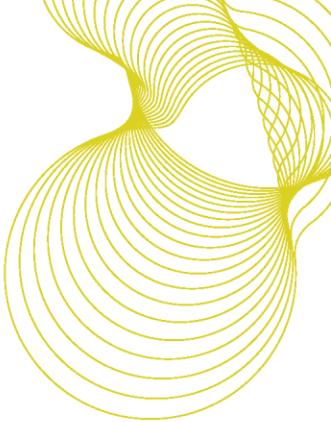


Chart 4: Gate to grave assessment for new wood, reclaimed wood and particleboard



In this wider LCA, where material use other impact categories are included, it is possible to show both a cradle to gate, and gate to grave benefit for reclaimed wood compared to particleboard. This information could be used to support Truly Reclaimed Wood; since if wood is not reclaimed, the next best option on the waste hierarchy is to include as a feedstock for wood based panel products. There are processing impacts associated with the manufacture of wood-based panel products, and an increased end-of-life impact due to the restriction of options to energy recovery or landfill. Therefore, to avoid these environmental impacts, markets for Truly Reclaimed wood should be promoted and increased.



4. Stakeholder feedback and piloting

A detailed report, deliverable 2, provides in depth information on the stakeholder feedback gained during this feasibility study. The key findings and conclusions are summarised here.

Key findings

The story/history of reclaimed wood

To summarise, the majority of the respondents believed that the history/story of the wood was of interest to customers, though this would depend on the client and this interest was likely to grow due to environmental concerns. However, it was not seen as critical issue for increasing reclamation. Therefore, any proposed scheme going forward should give consideration on how the story of the wood should be demonstrated.

The importance of reuse and key factors

For those that were reuse supporters , there were different drivers when considering reclaimed versus new wood - sustainability/eco-friendly is important for both but price is more important for new wood and attractive/aesthetics for reclaimed wood. For those that deal with larger projects then chain of custody, supply, procurement and price were important. This shows that a proposed scheme fits in well with the considerations for reclaimed wood, as long as the reclaimed wood maintains its aesthetics and the scheme demonstrates the sustainability/eco-friendliness. For larger projects, BREEAM is seen as a driver, so any proposed scheme should be developed with this in mind.

Demand and supply

One of the main reasons for introducing the TRWM is to increase the demand, which will, hopefully, have a positive impact on the supply. Therefore, feedback was obtained from the interviewees on the current state of the reclaimed wood sector, in terms of demand and supply issues. This included:

There is a lack of time to source reclaimed and sufficient quantity of the product you need.

For demolition if a material has a value it will be removed and reclaimed, but timber struggles if it does not have an aesthetic value. For example, painted timbers/door frames could require treatment to return to a product with a higher aesthetic value.

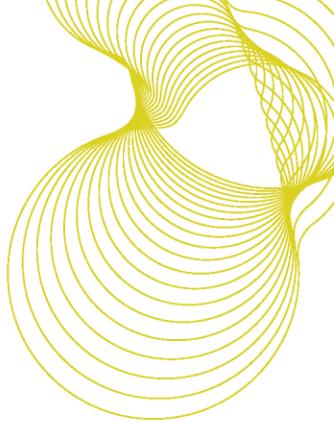
Issue with the source – might not get it when needed. This can be further affected through a long time lag between design and procurement.

The National Federation of Demolition Contractors thought that lack of demand might be to blame for the downward reclamation trend.

Views from those selling reclaimed wood included:

There was a real shortage of aged industrial wood.

The economics of the trade in reclaimed wood over the years has meant that as the market in domestic wood increased, the upstream source, particularly demolition contractors, increase the amount charged to the trade.



As prices increase, this creates new pressures from foreign sources, which come from countries with much a cheaper cost base that can absorb transport costs and still sell to dealers at lower costs than those being offered direct from UK demolition sites.

Waste management practices

It would appear that most wood is either chipped or sent for energy recovery; little is reused. This may be because it is not suitable, economical or there are other implications such as location and health and safety. Wood products have different lifecycles dependent upon their use, so it is important to understand these to determine their optimal lifespan. Whilst most respondents were favourable to a takeback scheme for reclaimed wood, there would need to be careful consideration of how it could work in practice and the business case.

A 'TRWM' for Truly Reclaimed Wood

Most stakeholders were in favour of having an assurance that timber was truly reclaimed. There were quite a few comments regarding possible implementation, including:

Implementation - It costs money to run such a scheme, would this additional cost on the wood place it out of the market (i.e. make it too expensive)?

When would the TRWM be required? If it is only required when the wood is changing hands (bought/sold) this may be good. But if it would need to be placed on wood being removed from demolition site and reused in new construction on that site it may be prohibitive to its use. The user may then decide to buy new instead of reusing.

Very difficult to get demolition contractors to do a decent demolition audit let alone anything else. Demolition contractors may reuse timber or other items, but they do not tell the building contractor/client about it. So very rarely do they find out what happened to materials in a building being demolished. It would be very difficult to put requirements on the demolition contractor for such a scheme.

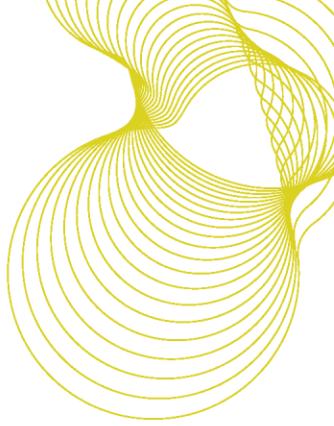
For this TRWM scheme, it will need to be easily identifiable, easy for checks to be made and also easy for guys on site to check too.

This would be of interest in terms of a managing risk approach. Therefore, they would need confirmation of the source of the wood in order to ensure they would meet environmental requirements and not have a negative impact on their reputation.

Those that were not in favour raised the point that using reclaimed timber is a niche demand. So, is there a need for a chain of custody scheme that could act as a barrier by introducing a cost? It was also thought to be difficult to implement.

In terms of willingness to pay more for reclaimed TRWM, it seemed that a 5-10% premium was possible, along with reassurance that it was legal and reclaimed. Those that did not want to pay more, or who were neutral, suggested that commercial teams might not want to pay more as their role is about least cost and clients would not be willing.

Potential mechanisms for operating a 'TRWM'



From the feedback obtained, some points were made about the mechanics of operating a scheme. This included:

Some sort of certification with a minimum 1st life span involved. Perhaps a minimum of 25% of any new project has to be either up-cycled or use reclaimed materials and maybe a certified twice reused item gets double percentage points.

Will have to be different to FSC but easy to follow like FSC. E.g., FSC is on the delivery ticket, on the wood, it is easy to check, and details are on the website for companies supplying it.

Clients who used reclaimed wood would be given a reminder, possibly a note/letter/document that authenticates the items bought ~~-as it should the building plan which change at a later date'~~.

The NCRWRP have been running their own "Recycled Wood" mark for the last 18 years. They have gently raised their profile. There has been no publicity campaign but they now have a national network of enterprises. They distinguish products made from recycled materials. It was suggested that 'Why create another mark? Why not work with them and pool resources?'

One dealer believed that the TRWM should differentiate using a basis of the distance travelled. He believed strongly that wood reclaimed from UK sites is of better quality than wood reclaimed from other countries such as, for example, Romania and other East European regions, or even China, which may encourage the movement of foreign bugs to Britain.

Grown in Britain

Interviewees were asked if they knew about Grown in Britain (GiB). If they did, they were further asked 'should the TRWM be part of GiB'. The majority of those that had heard of GiB were against this for a number of reasons, including:

It cannot work as part of GiB as you are never going to know where the wood originated. It could be reclaimed from a building in the UK but originally from another country.

This is a standalone scheme which would not link very well with GiB. The reclaimed wood could come from anywhere

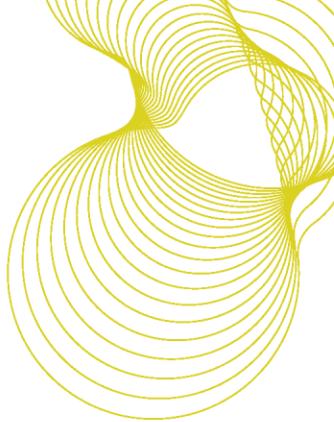
Beyond the scope of GiB. This aims to raise awareness of British woods and bring more woods into management.

Use of a TRWM

Views on the visual appearance of a TRWM were mixed. There were those that thought it would not be possible if it is being used for its aesthetic properties or should be small and discrete. Putting it on structural timber would be more suitable as all softwood is already labelled with other things. Therefore, markings on structural timber could be prominent. Others thought that it should be medium to large and instantly recognisable.

Potential to work for other reclaimed materials

The interviewees were asked if this type of scheme could also work for other reclaimed materials. Those that were in favour suggested that the key outcome of any TRWM would be to confirm the product meets



the user's requirements or meets a standard. It would need to be careful about which products it is applied to so that it does not dissuade people from using it. Those that were more negative believed that it is easy to know when it is reclaimed or not. In this context, a TRWM is not necessary and having a warranty relating to the product is the only benefit of having a TRWM.

Other important issues

A number of other important issues also arose when considering the feasibility of introducing a TRWM. These included:

Clients - will want to know "is it as good if it is second hand?" and do not necessarily trust it, for example, does it have the same shelf life etc.

Perverse consequences - would it put community reuse schemes out of business?

Regulatory position - is that if it is reusable as a piece of wood (i.e. in its current form) then it is not a waste. So for TRWM to be easy to apply, it needs to capture the wood before it enters the waste stream otherwise it may be necessary to demonstrate that it is becoming a non-waste.

Definition - there is an issue with the Government definition of 'legal and sustainable' as it only includes reclaimed material (abandoned or confiscated) if more than 10 years old and evidence is required.

BREEAM - How would this fit/link with BREEAM? The TRWM could be of relevance to various parts of BREEAM schemes.

The market - how visible is the market. Would a TRWM kick start more visibility around reclaimed wood as a source?

Legal source - there is a need to demonstrate the source. Timber could be badged as reclaimed but in fact from an illegal source.

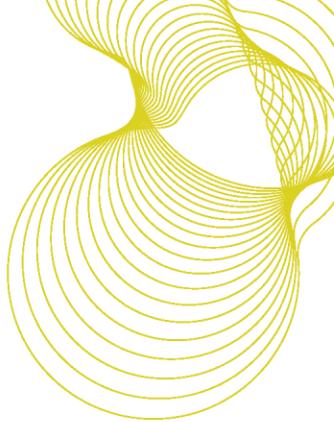
Suppliers – How would the purchase of reclaimed wood with a TRWM work? Would it be purchased from one company or many small ones?

What if a product is 90% new and 10% truly reclaimed, will it still get the TRWM?

Conclusions

The feedback is largely positive, especially from the reclamation dealers. It was found that support for the wood TRWM was almost universal, with only one trader being neutral on the benefits of a TRWM and everyone else both trade and private being supportive. The larger salvage businesses, who we had initially assumed might be less keen to be involved in the TRWM were generally more enthusiastic than the smaller ones. This bodes well for an uptake should the scheme go live, though there was some concern over any administration burden.

It was assumed that in order to persuade dealers in reclaimed wood of the merits of a TRWM the opinions of those outside the dealing trade would need to be sought and if those outside the inner section of dealers were supportive this would encourage the dealers to adopt the wood TRWM. In the event, the dealers themselves (apart from one social enterprise) appeared to instantly recognise the potential benefits of the



TRWM to their customers, and its persuasive nature to their suppliers. During the course of the project it became clear from the reclamation dealers that the importance of the wood TRWM hinged more on the final consumer interest in the history of the reclaimed wood than on the credibility of a technical labelling system. The concept of telling visitors to a building the history of the reclaimed wood in it seemed to have broad appeal. It seems that this information is already passed by salvage dealers to their customers, but the information is not then stored with the reclaimed wood for others to see and appreciate. The TRWM could provide such a narrative. However this view was not held from the interviewees who believed that chain of custody was important, including related legalities.

Most people surveyed, both private consumers and construction professionals said that reclamation and reuse were very or extremely important. Attitudes appeared to have changed considerably in the past ten years. Again this bodes well for the scheme. However, there were considerable issues raised about the supply and demand of reclaimed wood, which a TRWM scheme will not address directly. More work is needed to understand how some of these barriers (economic, logistics, health etc.) can be overcome.

The interviewees were more reticent of a scheme, with many suggesting that a scheme needs to be easy, straightforward and not add much (or any) cost to purchasing reclaimed wood. The least support came from demolition contractors and conservation architects, but even with this group, around half were supportive. The interviewees were also discussing the potential for the TRWM to be used for more low value reused wood e.g. for construction sites rather than purely for reclaimed dealers and this should be investigated further, possibly with the National Wood Community Project who already have a Recycled Wood mark.

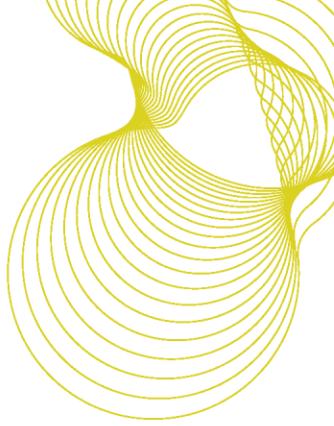
To enable circular economy for the reclaimed wood sector, it was established that it was important to understand the various lifecycles for reclaimed wood. A takeback scheme at end of current life for reclaimed wood had a mixed result with around 70% positive. Those approving seemed distanced from the practicalities, while people at the coal face felt that a takeback scheme could be difficult to implement. More work needs doing to devise some trial practical takeback schemes to assess their potential.

The main interest in reclaimed wood was price, eco-friendliness and aesthetic appeal. Of least concern were procurement issues, standards of supply and chain of custody. This would seem to indicate that the assurance given by the scheme that the wood was eco-friendly would be valuable.

There was almost universal approval for the assurance that the TRWM would give that reclaimed wood is genuinely reclaimed and not new wood made to look like old wood. Most surveyed had the view that this was extremely important. Again this supports the concept of the TRWM.

BREEAM was seen as a key driver for those that worked on larger projects, so consideration should be given to how a TRWM would link to this. More thought is needed on how a TRWM could be used visually as those that worked in the reclamation sector believed it should be flexible but views were more mixed from the more mainstream sector.

There are a number of important considerations in setting up a scheme such as what products it would work for, how the paperwork would operate, how far it goes down a chain of custody route and the costs related to it. The scheme needs to be developed further with these points in mind if is to appeal wider than the current reclamation sector.



5. Piloting

It was not possible to pilot the TRWM in terms of a beta version scheme, since this can only happen once the website and tracking methodologies are in place (as per Innovate UK funding sought to support pre-commercial development phase later in this report).

However, it was possible to gain feedback from the reclamation sector on the TRWM logo and supporting infographics. The infographic is provided in Annex 1 – designed to work on a mobile phone/tablet. The logo provided is illustrated below:



Feedback is summarised below:

General comments

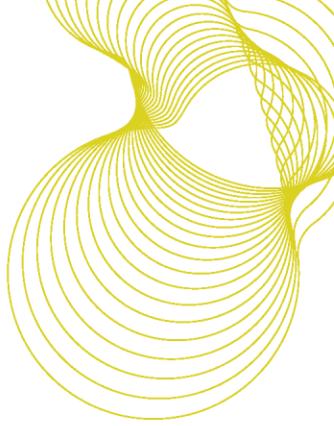
The Infographic is a great idea and we are really glad to see you progressing with this tool. In terms of the content we would say that it reads correct and informative.

It might be worth also noting that the UK reclamation industry also exports to other countries, such as USA, New Zealand and China. We are told that there is lack of suitable product in China for wood of a certain character, which is an interesting and developing trend which may effect global wood supplies, due to their demands.

We are seeing a lot of tiling/ vinyl suppliers etc. recently trying to copy reclaimed wood finishes. We think the demand for this is more to do with the current fashion/ aesthetic rather than the ecological aspect benefits. The Truly Reclaimed Wood Mark would help to emphasise the difference between the types of finishes available (whether they be truly reclaimed or new-made to look old).

Using reclaimed wood for structural purposes is not really condoned. This is due to the history of the wood not being known by the purchaser (i.e. the wood could have been over stressed in use or damaged, but cannot be seen without stress testing the wood).

We are seeing a lot less demolition material available. In fact we are seeing a lot less demolition of existing buildings altogether compared with say 5, 10, 15 years ago. This is due to multiple factors: there are less old buildings to demolish (lots of barn conversion/ factory's made into flats and



offices have been done), builders/ developers are much more aware of the materials and try to speculate with materials on internet. Our saving graces are that we are able to provide the larger quantities of materials which gives us the buying power. Also, logically it can cost more than the purchase price to move materials, potentially globally.

The suppliers of new wood cheap wood, made-to-look old, have filled this niche as they are able work on low margins but with more multiple sales. Simply put, this is essentially the tide that character reclaimed wood suppliers are working against! The TRWM would help to fight against this tide and raise reclaimed wood awareness

With regard to the 'how would the truly reclaimed wood mark work?':

This is a tricky one as batches of stock can be difficult to keep track of internally for reclaimed wood providers (as stock can get mixed up or separated from experience)

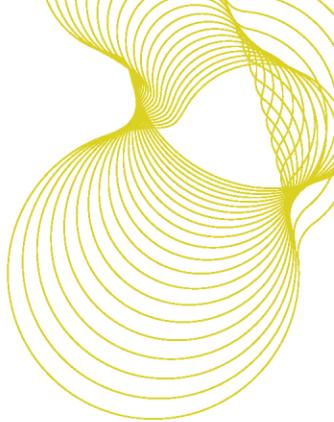
Keeping track of stock and their records is also not an easy process to keep check of, given that there can be multiples of stock in different areas with slightly different provenance/ ages/ features etc. This might seem easy to keep track off however a lot of time is spent actually processing the wood etc. and records can be seen as an added unnecessary task to some reclaimed wood suppliers.

We try to gain all the information/ detail, but the nature of buying & selling/ retail is quick and stock records can fall by the way side (particularly as our stock tends to be non-standard and has lots of variations).

We have tried to introduce a bar coding system for stock (to help keep track of stock), however due to time constraints etc., we were not successful at this. Essentially, we would need more staff to keep better track of stock admin, which eats into profits.

With regard to the 'what would the reclaimed wood mark look like?':

This mark might be better as a branding type stamp so that the kit/ equipment used to create it is unique which will make it harder for people to copy.



6. Awareness raising and dissemination

SalvoNEWS wrote a number of stories around the theme of the TRWM and two which were aimed at directly targeting its 6,500 weekly readership:

<http://www.salvonews.com/story/truly-reclaimed-wood-x92406x9.html>

<http://www.salvonews.com/story/truly-reclaimed-wood-mark-have-your-say-x93693x9.html>

The two stories elicited 38 responses, some of whom were interviewed, and some completed the online survey. Of the responses 12 were private consumers with positive views about wanting to know that genuine reclaimed wood had been used in a 'reclaimed' important and interesting. The remaining trade responses were also positive, with the TRWM being seen as a good or very good idea. Various suggestions were made about implementation which have been incorporated elsewhere in this report.

A presentation was given in the Build Circular series of workshops at Resource 16, part of Ecobuild 16 in February 2016 to around 50 people. The presentation gave an overview of reclamation in the UK and particular issues facing the sector. There was then a focus on reclaimed wood and how this could activity could be increased with the potential development of the TRWM. Ashwell Timber were presented as a case study of where and how reclaimed timber can be used. Delegates were asked if they were supportive of TRWM, with around two-thirds indicating that they were. There were a number questions related to reclamation and interest in the scheme going forward.

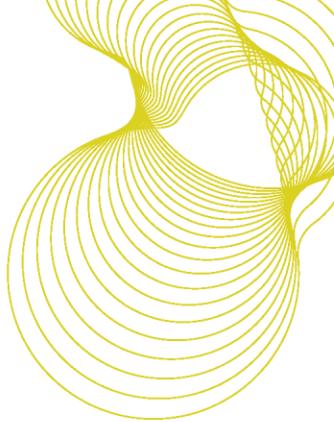
To support these awareness raising and dissemination activities, several promotional materials were produced. These include:

Presentation to stakeholders and those being interviewed (formed deliverable 1).

Infographic to summarise the TRWM, its justification and proposed approach (see Annex 1)

Infographic to reinforce the importance of reuse within the context of the waste hierarchy, as embedded in EU legislation through implementation of the 2011 Waste Framework Directive (see Annex 2).

These materials have and will be very useful in aiding dissemination and raising awareness of the importance of increasing both the demand and supply of Truly Reclaimed Wood.



7. Grown in Britain



Overview of GIB

The UK uses around 3 million m³ of timber each year. An estimated 67% of this is imported into the UK.

To support UK forestry and timber production, Grown in Britain focusses on three key areas:

- Creating stronger market 'pull' for products
- Enabling private sector funding to support planting and management of forests
- Harnessing the positive energy towards our forests and woodlands to create a strong 'wo

In terms of the construction sector, timber is a key resource. Therefore, the first objective in creating a stronger market pull has hinged upon promoting the use of UK timber in construction projects. This has targeted clients, designers and constructors, with some starting to specify certain levels of UK timber in construction projects. The highly distinctive GIB label can only be applied to products and timber sources that have satisfied the license conditions.

The GIB standard identifies traceability and management control systems to ensure licence holders are able to provide information on:

- Management, procedures, responsibility and record keeping
- Product schedule
- Purchasing / receipt storage
- Material accounting
- Sales and delivery; product claims
- Use of the Grown in Britain label
- Four key traceability elements:
 - UK provenance
 - Legally Felled
 - Comply with UK government Timber Procurement Policy requirements
 - Establishment of an effective traceability for inputs and outputs

In October 2014, GIB had been operating for 1 year with impressive results:

1m tonnes of timber branded

Forest carbon scheme plants 1st 100,000 trees

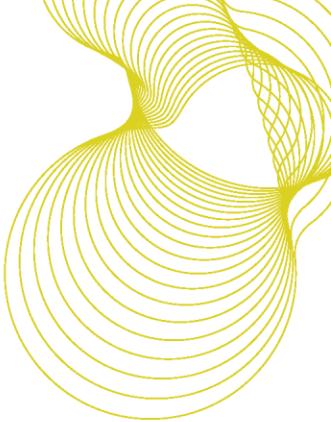
Grown in Britain schools pack

£26bn construction spending backing GIB

250,000ha forests sign up

Woodland in management rising to 60%

Social media has been heavily deployed, especially through twitter (@GrowninBritain) and is the most widely followed timber related account in the UK, with over 10,500 followers. Other publicity and promotional activities have been very successful too, such as Grown in Britain week, held in October each year.



Initial discussions

Initial discussions suggested that there could be a strong alignment and synergy between GIB and promotion of Truly Reclaimed wood. This would focus on the potential for wood arising from demolition projects in the UK to be part of the drive to displace timber imports, ie locally derived sources. It would also showcase the durability and beauty of wood, with added social and environmental benefits.

However, a strong environmental case was also deemed important to align with GIB and concerns were raised by all parties as to whether the current life cycle analysis approaches would frame reclaimed wood in a similar reduced impact category as new wood. This led to a revision of the feasibility project plan to have a focussed task on life cycle analysis of reclaimed wood versus new wood to see how the results might compare.

Concluding discussions

Discussions were maintained throughout the feasibility study, and an alignment seemed to be a logical approach to further development. However, the stakeholder discussions with potential users of the Truly Reclaimed Wood scheme revealed that such an alignment would be both confusing and risk misrepresentation/dilution of both schemes.

This centred around a few areas, including:

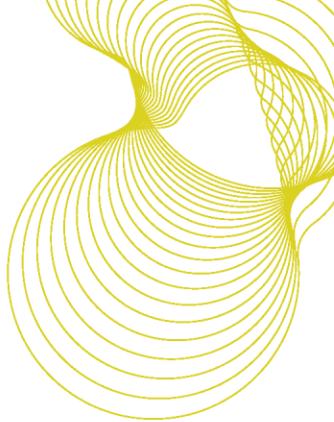
Wood can be reclaimed and not arising from the UK

The environmental case for new timber when using traditional LCA approaches is stronger than for reclaimed timber (see section on LCA findings)

The supply chain is very different with some common customers

For these shared customers, a hierarchy of preferred use, between new wood Grown in Britain and reclaimed wood, would be necessary but also very difficult to develop without creating conflict

Therefore, it was decided to adapt the proposed alignment to become one of knowledge transfer from the successfully developed and applied GIB scheme. Should the TRW scheme be further developed to the point of commercialisation, an informal collaboration in terms of mutual support and signposting to each other is deemed more appropriate.



Development of business case

The stakeholder engagement from both the supply and demand side demonstrates that there is a good potential market for a developed Truly Reclaimed Wood Mark (TRWM). This is supported by the growing importance of the Grown in Britain (GIB) scheme, whereby a strong brand and a simple message of its importance has been used to grow a business from scratch over a three year period. From an initial setting up period of around 2 years where significant costs were incurred, mainly in the form of unpaid staff time; GIB is now self-sustaining from an operational cost basis.

BRE and Salvo have used the experience of GIB's development. This has been tailored towards the differing nature of the TRWM. GIB experience was also helpful to project levels of uptake and subscription to estimate revenue.

Business plan summary

The business plan is based on the assumption that Innovate UK will assist with seed grant funding for the first three years to cover the shortfall of operating costs until the scheme becomes self-funding.

OWNERSHIP

The TRULY RECLAIMED wood mark (TRWM) will be owned by Salvo Ltd with a profit-share going to BRE Ltd.

IMPACT

The aim of TRWM is to increase the reuse of reclaimed wood by providing an assurance scheme for specifiers within mainstream construction, in particular within the hospitality and retail sectors.

RESPONSIBILITIES

Salvo Ltd will provide management, administration, policing, office facilities, organise visits, meetings, website, stationery, costs will increase as the scheme partners increase in number. Salvo will set up a monitoring group of TRWM business partners to discuss progress and matters arising during the setup phase.

BRE Ltd will provide management input, legal and IP input, and some admin and meeting space, and scheme promotion.

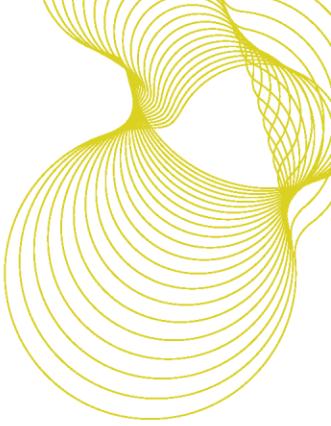
ESTIMATED INCOME

SCHEME MEMBERS

It is anticipated that within four years most of the ongoing income will be from scheme members who will pay a tiered subscription based on throughput of reclaimed wood.

Large business rate, t/o more than 100m³ annually £600

Medium business rate t/o between 10 - 100 m³ annually, £300



Small business rate, t/o below 10 m³ annually, £60

Estimates have been made on numbers of initial members and annual growth based on the development of the Salvo Code², alongside the growth demonstrated by GIB.

SPONSORSHIP

It is hoped that a few major sponsors might contribute towards the running of the scheme in exchange for a profile in the TRWM marketing and website.

RESEARCH FUNDING

The TRWM scheme will seek research funding opportunities to contribute towards costs in appropriate areas.

CARBON OFFSET SCHEME

The TRWM will apply to be eligible for funding as part of carbon offset schemes, though this would need to be tailored to the environmental benefits demonstrated through the avoidance of downcycling solid wood into wood-based products.

EVENT & MEDIA PARTNERS

Specific event publications, videos, flyers and exhibition stands will be part-funded by direct sponsors from within the support network.

INNOVATE UK

Funding of £125,000 towards the set up costs within the first three years of the scheme will be sought from Innovate UK. This should result in a self-funded scheme by year 4.

The estimated business plan figures are provided here and in Annex 3.

ESTIMATED EXPENDITURE

SET UP COSTS over three years

Office		£10,000	£10,000	£10,000
Legal		£15,000	£15,000	£5,000
Training		£1,800	£1,800	£1,800
Marketing				£2,000
Website/app		£42,000	£8,000	£9,500
other set up costs		£1,200	£2,900	£3,200
Design & layout		£6,000	£3,000	£1,500
Staff		£49,986	£44,544	£42,275

² Salvo Code



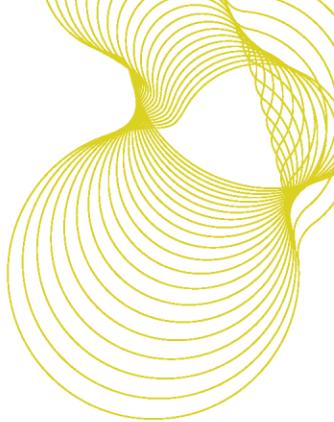
ANNUAL COSTS from year 4 onwards

Office	£15,000
Legal	£5,000
Training	£2,500
Marketing	£2,000
Website/app	£5,000
other set up costs	£0
Design & layout	£1,500
Staff	£30,000

ESTIMATED REVENUE

SET UP REVENUE over three years

Large Business membership	£600	0	£0	10	£6,000	40	£24,000
Medium Business	£300	0	£0	15	£4,500	100	£30,000
Small Business	£60	0	£0	20	£1,200	125	£7,500
Sponsorship			£2,000		£2,000		£2,000
Research			£2,000		£2,000		£2,000
Carbon Offset			£2,000		£4,000		£7,000
Media Partners			£5,000		£5,000		£5,000
Innovate UK grant			£65,600		£40,195		£19,508

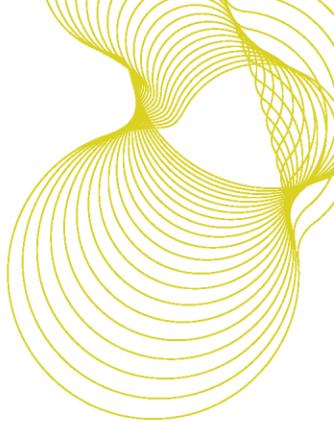


ANNUAL REVENUE from year 4 onwards

Large Business membership	£36,000
Medium Business	£45,000
Small Business	£15,000
Sponsorship	£3,000
Research	£0
Carbon Offset	£20,000
Media Partners	£10,000
Innovate UK	£0

OVERALL PROFIT AND LOSS

	Year 1	Year 2	Year 3	Year 4
TOTAL Income	£76,600	£64,895	£97,008	£129,000
TOTAL Costs	£125,986	£85,244	£75,275	£61,000
Balance	-£49,386	-£20,349	£21,733	£68,000



Stage 2 proposal

This section is the Stage 2 proposal to Innovate UK for piloting and commercial development of the scheme.

Justification

The feasibility study results provided in this report show that a TRWM scheme would be welcomed by a wide range of potential users, both from the supply and demand side. Whilst there is a great deal of positivity and detailed feedback relating to development of the scheme, this has to be tempered by the inescapable fact that the margins to work within are very tight.

Salvo is used to working within these constraints, having set up the SALVO code many years ago on a shoestring budget. Salvo set up the Salvo Code in 1995. It is a simple voluntary code for dealers who buy and sell architectural antiques, antique garden ornament and reclaimed building materials. The Salvo Code aims to give customers greater confidence, in particular, that items which they buy have not been stolen or removed from protected historic buildings without permission. This low ongoing resource but long time frame approach could be adopted for development of the TRWM scheme, and will be done so should there be no further funding possible from Innovate UK to support the next pre-commercialisation phase of work, ie setting the scheme up.

However, Innovate UK support will enable a much more rapid and extensive setting up of such a scheme, leading to earlier intervention in stemming the flow of fak wood. It is clear that the longer this practice continues, the greater the commercial threat to existing reclamation dealers, especially when coupled with the generally decreasing levels of reusable timber arising from the demolition process. This requires additional awareness raising and market stimulation to incentivise the demolition industry to extract good quality timber in ways that are conducive to reuse. Again, this requires additional financial support to have an effective campaign here too.

In this way, the TRWM becomes a focal point to rally support on both sides of supply and demand to exhaustively reuse any appropriate timber that becomes available. The greater traceability adds value to this resource, both in terms of interest value, e.g. historical context, and assurance value. This enhancement of value also provides a small margin within which the TRWM scheme can become self-sufficient.

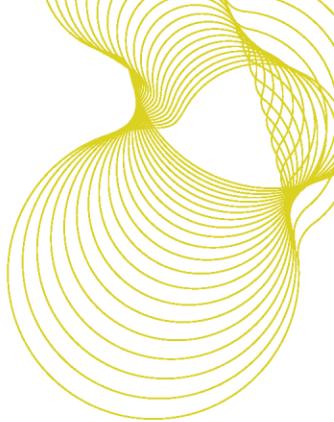
Work plan

The tasks relating to the Stage 2 proposal are set out below:

Task 1 - set up user group (Month 0 - 2)

The feasibility study has been very useful in understanding which stakeholders and potential users would be approached to establish a user group to help develop and commercialise the TRWM scheme. The members would be a combination of supply side – demolition and reclamation; and demand side – design, contracting and clients. The group will meet every 6 months with conference calls in the intervening 3 months.

Output – user group membership list and terms of reference for the group



Task 2 -website & app specification (Months 3 – 5)

The TRWM scheme needs a website to raise awareness and enable the mechanics of the scheme to operate, as illustrated below:

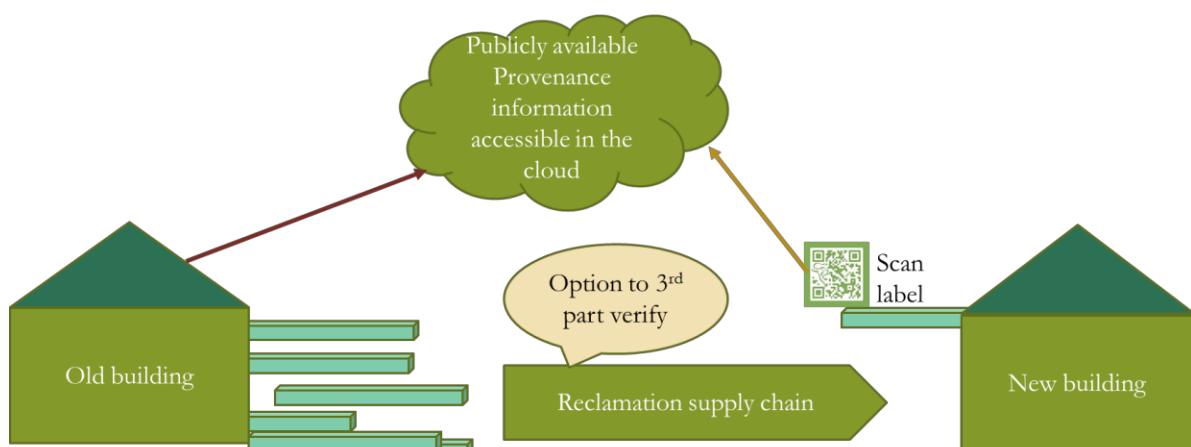


Fig – illustration of proposed TRWM process

In addition, we also feel an accompanying 'app' to assist distribution and use using mobile phones, is essential.

This task will develop the specification for programming, against which several quotations to deliver the work will be sought.

Output – report detailing the specification and quotes received

Task 3 - develop tracking method (Months 5 – 6)

Alongside the website an appropriate tracking approach for the timber or other products. A number of approaches will be evaluated, including RFID/other forms of tagging. It is now possible to procure very small tags (a few millimetres) which can hold a good amount of information at low cost. It may be necessary to have more than one approach available depending on the market acceptance for particular applications.

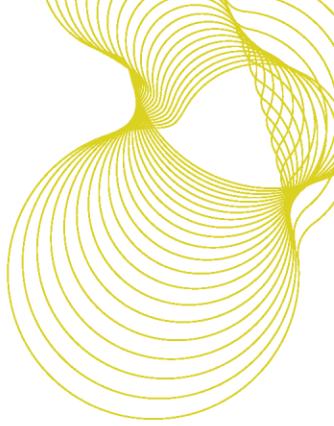
Output – interim report detailing evaluation process, conclusions and recommendations

Task 4 - beta version system development (Months 6 - 11)

This task relates to the programming phase to produce a beta version of both the website and the app. Salvo and BRE will work closely with the appointed contractor during this phase to ensure the specification is being followed correctly and to provide the necessary technical input to create the system.

Output – beta version software to download/ access by restricted group

Task 5 – pilot beta version (Months 12 - 16)



The user group, and others, will be invited to trial the beta version website and app (for user experience and recommendations for improvement), along with Salvo and BRE (to spot inconsistencies or malfunctions). This will provide a set of improvements to be included in the commercial version of the website/app.

Output – feedback report detailing pilot process, conclusions and recommendations
Task 6 - feedback and revise (Months 16 - 19)

This task relates to the improvements undertaken prior to launch of a commercial system, i.e. further technical input and reprogramming as per feedback from the piloting phase.

Output – commercial version of website, app and tracking approach

Task 7 - soft launch and free access phase (Months 20 - 25)

Experience with other software tools developed by BRE shows that it is difficult before they try'. Therefore, following a soft launch, a period of time (3-6 months) whereby they can trial without incurring cost will be enabled. Discounts and enhancements will be built into this trial period to encourage early adopters to pay membership fees before the trial completes.

Users will also be encouraged to provide feedback on how their experience could be improved, ie possible further modifications to the system. Again, this has proved to be a very successful approach with BRE tools since it makes early users feel part of a club, where they are listened to and encouraged to put forward suggestions to improve the system. This also helps to identify further versions of the system with enhanced functionality on an ongoing basis.

Output – list of users and feedback at end of free access phase

Task 8 - final changes (Months 25 - 27)

Although there will be suggestions that cannot be done cheaply or quickly (these will form the basis of upgrading future versions), there are likely to be a few quick fixes that can be accommodated prior to full launch.

Output – final version of the system – website, app and tracking approach

Task 9 - full launch (Month 28)

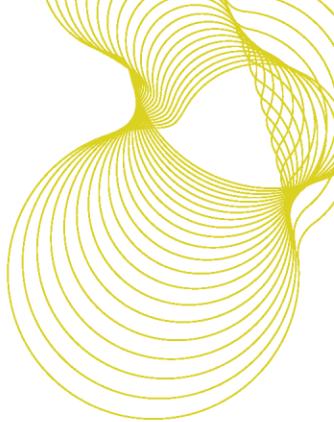
A full launch of the scheme will be held to raise awareness and garner as much publicity as possible. The programme will include perspectives from the TRWM supply chain to promote delegate sign up from the supply and demand side as well as a marketing and PR strategy.

Output – event programme and list of delegates

Task 10 - project management (Months 0 to 28)

This will continue throughout the project period, with quarterly (at least) project team meetings and regular updates of the Innovate UK project plan.

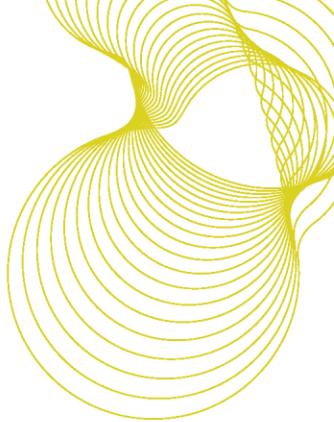
Output – Innovate UK project plans and quarterly updates.



Costs

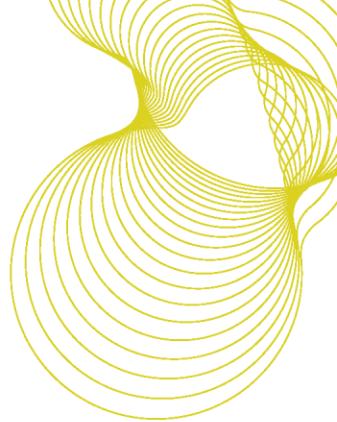
A gantt chart detailed eligible costs is provided in Annex 4. These are summarised below for costs over a 28 month period:

Staff costs	Costs	Grant
Salvo	58155	34893
BRE	58660	29330
Other costs		
programming costs	54500	32700
travel and subsistence costs	2800	1680
catering &venue costs	4500	2700
design and layout costs	9000	5400
legal costs	31000	18600
Total	218615	125,303



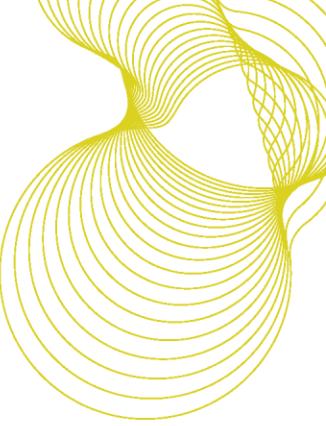
APPENDIX 1 INFORMATION





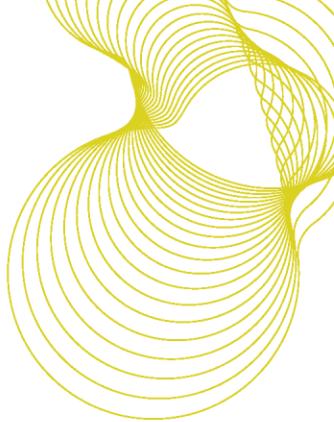
ANNEX TRWM INFOGRAPHIC





ANNEX 3 BUSINESS SUPPORTED COSTS/ANNUAL

INCOME	Year 1		Year 2		Year 3		Year 4		TOTALS
	Fee	No.	Income	No.	Income	No.	Income	No.	
Large Business	£600	0	£0	10	£6,000	40	£24,000	60	£36,000
Medium Business	£300	0	£0	15	£4,500	100	£30,000	150	£45,000
Small Business	£60	0	£0	20	£1,200	125	£7,500	250	£15,000
Sponsorship			£2,000		£2,000		£2,000		£3,000
Research			£2,000		£2,000		£2,000		£0
Carbon Offset			£2,000		£4,000		£7,000		£20,000
Media Partners			£5,000		£5,000		£5,000		£10,000
Innovate UK			£65,600		£40,195		£19,508		£0
TOTAL			£76,600		£64,895		£97,008		£129,000
EXPENDITURE	Expenditure		Expenditure		Expenditure		Expenditure		
Office			£10,000		£10,000		£10,000		£15,000
Legal			£15,000		£15,000		£5,000		£5,000
Training			£1,800		£1,800		£1,800		£2,500
Marketing							£2,000		£2,000
Website/app			£42,000		£8,000		£9,500		£5,000
other set up costs			£1,200		£2,900		£3,200		£0
Design & layout			£6,000		£3,000		£1,500		£1,500
Staff			£49,986		£44,544		£42,275		£30,000
TOTAL			£125,986		£85,244		£75,275		£61,000
Balance			-£49,386		-£20,349		£21,733		£68,000
Reserve fund			-£49,386		-£69,735		-£48,002		£19,998



A N N E X 4 S T A G E & 2 P R O C R A M M I N G P I L O T I N G A N D U P

Stage 2 Workplan	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25	Month 26	Month 27	Month 28				
Gantt																																
task 1 - set up user group																																
task 2 website & app specification																																
task 3 develop tracking method																																
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task 6 feedback and revise																																
task 7 soft launch and free access phase																																
task 8 final changes																																
task 9 full launch																																
task 10 project management																																
staff costs																													Totals			
Salvo	2046	2046	1178	1178	3131	3131	1178	1178	1178	1178	2263	2263	2263	3348	1178	1178	2263	2263	2263	4071	1901	1901	4433	58155								
BRE	1629	1629	3782	3782	5492	3219	1509	1509	1509	1509	2045	2045	2045	3035	1676	1676	1074	1074	1074	2214	1825	1825	4105	58660								
other costs																																
programming costs							7,000	7,000	7,000	7,000	7,000	7,000	7,000	2,000	2,000	2,000	2,000	2,000	1,500	1,500	1,500	54500										
travel and subsistence costs	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	2800				
catering&venue costs																													3000	4500		
design and layout costs							1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	9000				
legal costs															15000														15000	1000	31000	
																														218615		